

space equipment, and support hardware, developed by a NASA Program Office or by another party with which NASA has a shared interest, and carried into space to accomplish a mission or discrete activity in space.

(c) *Mission*. The performance of a coherent set of investigations or operations in space to achieve program goals. A single mission might require more than one flight or more than one mission might be accomplished on a single flight.

(d) *Mission manager*. The official responsible for the implementation of the payload portion of an STS flight(s).

(e) *Mission specialist*. A career NASA astronaut trained and skilled in the operation of STS systems related to payload operations and thoroughly familiar with the operational requirements and objectives of the payloads with which the mission specialist will fly. The mission specialist, when designated for a flight, will participate in the planning of the mission and will be responsible for the coordination of overall payload/STS interaction. The mission specialist will direct the allocation of STS and crew resources to the accomplishment of the combined payload objectives during the payload operations phase of the flight in accordance with the approved flight plan.

(f) *Investigator Working Group (IWG)*. A group composed of the Principal Investigators, or their representatives, whose primary purpose is facilitating or coordinating the development and execution of the operational plans of an approved NASA program or reporting the progress thereof.

(g) *Payload sponsor*. For NASA and NASA-related payloads the payload sponsor is the Associate Administrator of the sponsoring Program Office whose responsibilities are most closely related to the particular scientific or engineering discipline associated with a payload. For all other payloads, the payload sponsor is identified by the Associate Administrator who contracts with the agency or organization, whether foreign or domestic, private-sector or governmental, to fly a payload on the STS.

(h) *Unique requirements*. The need for a highly specialized or unusual technical or professional background or the

need for instrument operations requiring a highly specialized or unusual background that is not likely to be found in the group of mission specialists or cannot be attained in a reasonable training period.

§ 1214.302 Background.

(a) The Space Transportation System (STS) has been developed to expand the Nation's capabilities to utilize the unique environment of space. It provides opportunity for individuals other than career astronauts to participate as onboard members of the flight crew under specified conditions. The purpose of such participation by these individuals is to ensure the achievement of the payload or mission-related objectives.

(b) The STS will provide these additional crew members with a habitable working environment and support services in such a way as to require a minimum of dedicated space flight training, allowing them to concentrate their efforts on the accomplishment of their scientific, technical, or mission objectives.

§ 1214.303 Policy.

(a) *General*. (1) The Challenger accident marked a major change in the U.S. outlook and policies with respect to the flight of other than NASA astronauts. NASA and interested external parties, domestic and international, must re-examine previous understandings, expectations, and commitments regarding flight opportunities in light of the new policies now being enunciated.

(2) NASA policies and their implementation recognize that:

(i) Every flight of the Shuttle involves risks;

(ii) Flight opportunities will now generally be limited to professional NASA astronauts and payload specialists essential for mission requirements; and

(iii) Top priority must be given to:

(A) Establishing, proving, and maintaining the reliability and safety of the Shuttle system;

(B) Timely and efficient reduction of the backlog of high priority scientific and national security missions; and

maximum utilization of the Shuttle capacity for primary and secondary payloads that require transportation to or from orbit by the Space Shuttle.

(3) All Shuttle flights will be planned with a minimum NASA crew of five astronauts (commander, pilot, and three mission specialists). When payload or other mission requirements define a need and operational constraints permit, the crew size can be increased to a maximum of seven. Any such additional crew members must be identified at least 12 months before flight and be available for crew integration at 6 months.

(4) NASA policy and terminology are revised to recognize two categories of persons other than NASA astronauts, each of which requires separate policy treatment. They are:

(i) *Payload specialists*, redefined to refer to persons other than NASA astronauts (commanders, pilots, and mission specialists), whose presence is required onboard the Space Shuttle to perform specialized functions with respect to operation of one or more payloads or other essential mission activities.

(ii) *Space flight participants*, defined to refer to persons whose presence onboard the Space Shuttle is *not* required for operation of payloads or for other essential mission activities, but is determined by the Administrator of NASA to contribute to other approved NASA objectives or to be in the national interest.

(b) *Payload specialists*. Payload specialists may be added to Shuttle crews when more than the minimum crew size of five is needed and unique requirements are involved. In the case of foreign-sponsored missions and payloads, the need and requirements for payload specialists will be negotiated and mutually agreed between the foreign sponsors and NASA. The selection process for additional crew members to meet approved requirements will first give consideration to qualified NASA mission specialists. When payload specialists are required, they will be nominated by the appropriate NASA, foreign, or other designated payload sponsor. In the case of NASA or NASA-related payloads, the nominations will be based on the recommendations of the

appropriate Investigator Working Group (IWG).

(c) *Space flight participants*. NASA remains committed to the long-term goal of providing space flight opportunities for persons outside the professional categories of NASA astronauts and payload specialists when this contributes to approved NASA objectives or is determined to be in the national interest. However, NASA is devoting its attention to proving the Shuttle system's capability for safe, reliable operation and to reducing the backlog of high priority missions. Accordingly, flight opportunities for space flight participants are not available at this time. NASA will assess Shuttle operations and mission and payload requirements on an annual basis to determine when it can begin to allocate and assign space flight opportunities for future space flight participants, consistent with safety and mission considerations. When NASA determines that a flight opportunity is available for a space flight participant, first priority will be given to a "teacher in space," in fulfillment of space education plans.

§ 1214.304 Process.

(a) *Determining the need for additional crew members*. The payload sponsor will be responsible for recommending the number of additional crew members and for establishing the technical or scientific need, the selection criteria, uniqueness of qualifications, the proposed training, and other requirements for the additional crew members. The payload sponsor's requirements for additional crew members, their qualifications, and the proposed duration for training will be reviewed with and concurred in by the Associate Administrator for Space Flight.

(b) *Selection of additional crew members for NASA and NASA-related payloads*. After the requirement for additional crew members has been established, the IWG will be tasked by the payload sponsor to commence the selection process. The IWG review process will include the participation of a senior astronaut from the Flight Crew Operations Directorate at the Johnson